ITRONIX®	TECHNICAL NOTE	Number	552
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TITLE:	Fex21 Charging Failure
ABSTRACT:	Description of Fex21 charging indicators

Introduction

A number of Fex21 users have reported intermittent battery status failure after extended periods of charging. This document is intended to clarify why this happens and reassure users that this is not a fault.

Charging Indicators

The Fex21 makes extensive use of an externally viewed LED charging indicator to inform users of the charge state of the battery. The following is a list of states indicated by the LED:

- LED Off: AC adapter not connected or AC adapter not switched on
- LED On: The unit is running on AC adapter power. Charging is complete, is disabled or is not allowed (battery too hot/cold or no rechargeable battery is fitted).
- Slow regular flashing (once per second): The unit is running on AC adapter power and the battery is charging.
- Fast irregular flashing: The unit is running on AC adapter power. Battery charging has not started, or has been aborted. This may be due to a battery fault.

The last of these conditions (fast irregular flashing) is the state that causes the most concern amongst users.

Charging Failure

A situation can arise on the Fex21 whereby a charging failure occurs thus aborting charging before completion. When this happens the external LED indicator switches to fast irregular flashing. When battery info is selected from the Fex21 util applet the thermistor will report 'TOO HIGH' and smart battery will report 'FAILED'. This is due to a temperature safety cut-off on the smart battery.

As the Fex21 smart battery charges the cell temperature gradually increases, this is a normal aspect of the charging process. On rare occasions the Fex21 smart battery can be discharged to such a low level that the battery temperature exceeds it's safety cut-off value and charging aborts. This situation can be resolved by simply removing the charger and allowing the battery to cool for up to 30 minutes, this period can be affected by ambient conditions such as external temperature. In order to re-initialise the battery status information before re-commencement of charging it will be necessary to power the Fex21 off then back on again.

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